

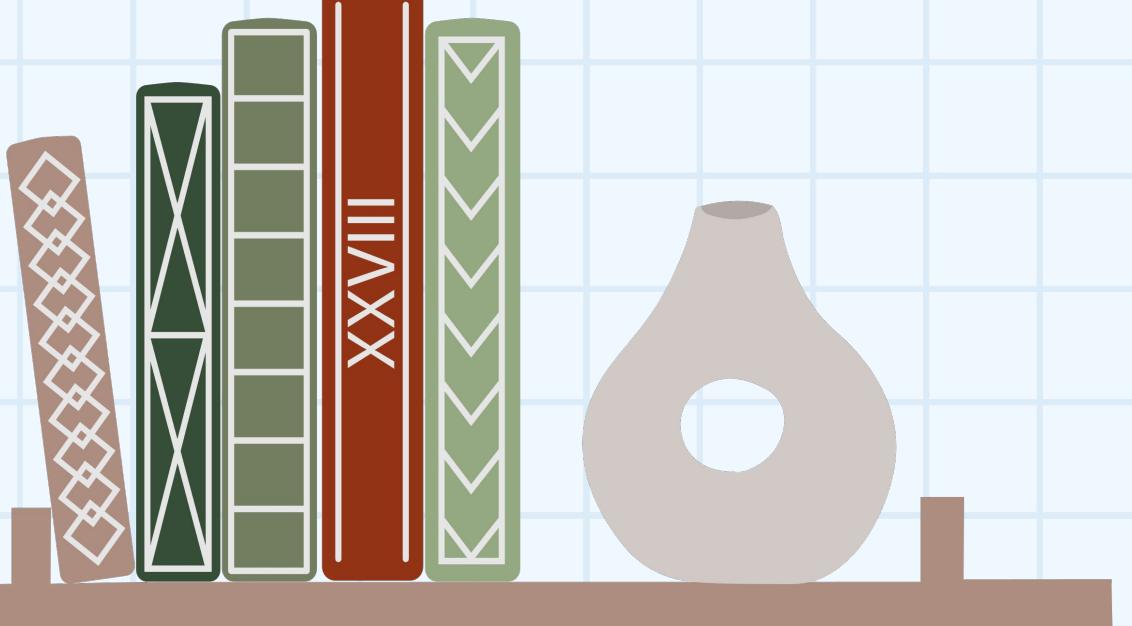
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# BS./BSC.IN

## Applied ai and Data Science

# Basics of Data Analytics





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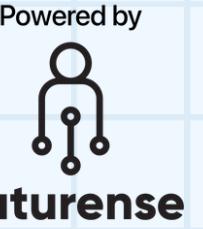
# Let's dive into and learn:



1

Data Visualization Softwares  
and Tools

# Data Visualization Softwares



- How to build the data visualizations we have learnt about
- Learn about the most commonly used Data Visualization

## Software and Tools

# Data Visualization Softwares



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- Spreadsheets
- Jupyter Notebook and Python Libraries
- R-Studio and R-Shiny
- IBM Cognos Analytics
- Tableau
- Power BI

# Spreadsheets



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- Seen before how to use spreadsheets for basic data analysis
- Most commonly used tool for data visualization as well.
- Easy to learn
- Oldest, so lots of tutorials and documentation online

# Excel



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- Provides many chart types readily.
- Some we have learnt (bar, line, pie, scatter charts, trend lines).
- But many more...
- Provides recommendations on the best visual representation for your data set.
- You can customize by changing different elements of the graph (title, labels, colours etc.)

# Google Sheets



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- Similar chart types for visualization
- Like Excel, Google Sheets can help you choose the right visualization.
- Highlight the data you wish to visualize and click the chart button
- Charts will get automatically updated in both Excel and Google Sheets when the underlying data is changed.
- Google Sheets is better for collaborations

# Jupyter Notebook

- Open-source web application
- Explore data and create visualizations
- Many Python libraries exist for data visualizations
- Most commonly used – Matplotlib
- Matplotlib provides different kinds of 2D and 3D plots
- Flexibility to create plots in several different ways
- High-quality, interactive graphs and plots easily



# R Studio



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- Create basic visualizations such as histograms, bar charts, line charts, box plots, and scatter plots
- Advanced visualizations such as heat maps, mosaic maps, 3D graphs
- Shiny is an R package that helps build interactive web apps that you can host as standalone apps on a web page.
- These web apps seamlessly display R objects such as plots and tables and can be made live to allow access to anyone
- Also build dashboards using Shiny.

# IBM Cognos



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- End-to-end analytics solution.
- Many visualization features ,include importing custom visualizations
- Also includes a forecasting feature
- Recommendation for visualizations based on your data.

# Tableau



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- Software company that produces interactive data visualization products.
- Using Tableau products, you can create interactive graphs and charts
- Dashboards and worksheets with drag-and-drop gestures
- Option to publish results in the form of stories.
- Can import R and Python scripts in Tableau
- Easy and intuitive to use
- Compatible with Excel files, text files, relational databases,

# Power BI



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- Cloud-based business and analytics service from Microsoft .
- Powerful and flexible tool
- Easy-to-use drag-and- drop interface.
- Compatible with multiple sources including Excel, SQL server, and cloud-based data repositories
- Collaborate and share customized dashboards and interactive reports securely, even on mobiles
- Many visualizations on a single page that help you tell your story

# Choosing



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- When deciding which tools to use, consider the ease of use and purpose of the visualization
- Many available choices
- Be well-versed with at least one

# Recap



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## Data Visualization Softwares and Tools



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# Thank you

